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EXAMINER

MUSSER, BARBARA J

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/445,356

Applicant(s)

HOCHET ET AL.

Examiner

Barbara J. Musser

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 10-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-6 and 10-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what ratio of width of the incision versus depth is meant by "narrow relative to the thickness of the panel." It is unclear if a ratio of 1:2 or 1:3 or 1:4 meets the claim limitation. The specification fails to disclose a specific range for what is meant by a narrow incision, or for what is meant by "narrow relative to the thickness of the panel." It is unclear what range of widths is considered an "incision".

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5, 6, 10-14, and 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Dubois, Komarek et al.(U.S Patent 5,466,211), and optionally Ilzhoefer et al.

Art Unit: 1733

The admitted prior art discloses forming a composite sandwich panel by cold pressing a reinforced thermoplastic skin, a thermoplastic core, and a second reinforced thermoplastic skin in a cold mold to form a panel which is used in automobiles. The skins are preheated to a softening temperature prior to molding. After molding, a separate hinge can be added to the panel.(Specification, pages 1-2)

The admitted prior art is silent as to the molding pressure. Dubois discloses forming a thermoplastic honeycomb panel like those in the admitted prior art by molding the panel at 10-30 bar.(Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to mold the panel of the admitted prior art at 10-30 bar since Dubois discloses that panels like those of the admitted prior art are molded at 10-30 bar.

The admitted prior art does not disclose forming the hinge by cutting only a narrow incision through one skin and the entire core of the panel while leaving the second skin intact. Komarek et al. discloses it is known when forming a hinge in a honeycomb panel to cut a narrow incision through one skin and the entire core of the panel while leaving the second skin intact.(Col. 2, ll. 19-29) It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the separate hinge of the admitted prior art with an integral hinge formed by cutting through one skin and the entire core of the panel while leaving the second skin intact since forming a slit to facilitate hinge formation in either thermoplastic or paperboard would have been obvious as Komarek et al. discloses forming such hinges in honeycomb panels, since this would reduce the cost as a separate hinge would not be required, and

Art Unit: 1733

optionally, particularly since Ilzhoefer shows it is known to form integral hinges in fiber-reinforced thermoplastic.(Abstract) Since Komarek et al. discloses forming a slit in a paperboard honeycomb, one in the art would reasonably have expected success when forming a slit to use as a hinge in a thermoplastic honeycomb.

While the references do not specifically state the slit is narrow, one in the art would appreciate that the slit shown in Figure 1 of Komarek et al. was narrow in relation to its thickness.

Regarding claim 2, the references do not disclose when or where the hinge is formed in the panel. One in the art reading the references as a whole would appreciate that there is no criticality in the timing of forming the hinge. Therefore, one in the art would readily appreciate that it would have been within the purview of one in the art to form the hinge after formation of the panel while still in the mold since this would reduce processing time. Only the expected results would be achieved.

Regarding claim 3, Komarek et al. discloses a serrated cutting blade can be used.(Col. 5, ll. 44-46) The reference does not disclose how a serrated cutting blade is used. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a serrated knife to cut through a first skin and core in a straight downward motion since this would prevent tearing of the board edges. One in the art would understand since the knife is not intended to cut entirely through the honeycomb, pressing straight down would not necessarily cut through all of the honeycomb core but would leave small portions uncut because the blade is serrated.

Art Unit: 1733

Thus one in the art would appreciate that the knife blade would be moved horizontally as well as vertically to ensure that all of the honeycomb core is cut.

Regarding claims 5 and 6, the references do not disclose when or where the hinge is formed in the panel. One in the art reading the references as a whole would appreciate that there is no criticality in the timing of forming the hinge. Therefore, one in the art would readily appreciate that it would have been within the purview of one in the art to form the hinge either before or after removal from the mold. Only the expected results would be achieved.

Regarding claim 10, the references do not specifically state that the subassembly of skins and core is pre-heated prior to molding. However one in the art would appreciate that the pre-assembly could be preheated to ensure better molding particularly since the molded panel can be formed into a curved shape and when forming such a shape preheating the core as well as the skins would enable easier molding.

Regarding claim 11, Dubois discloses the skins are pre-heated to 160-200C during the forming process. (Oral translation) It would have been obvious to one of ordinary skill in the art at the time the invention was made to pre-heat the skins of the admitted prior art to 160-200 C since Dubois discloses that panels like those of the admitted prior art are made by first pre-heating the skins to 160-200 C.

Regarding claim 12, the admitted prior art discloses the thermoplastic is reinforced but not with what. Such reinforcement is conventionally fibers as shown for example by Ilzhoefner et al. (Abstract) It would have been obvious to one of ordinary skill

Art Unit: 1733

in the art at the time the invention was made to use glass fiber as the reinforcement in the thermoplastic of the admitted prior art since Ilzhoefer et al. that reinforced panels in automobiles can be formed from glass fiber reinforcement and since the use of fiber as reinforcement is well-known and conventional in the art.

Regarding claim 13, the admitted prior art is silent as to the thermoplastic used to form the panel. Dubois(oral translation) discloses using polypropylene to form the skins and core of the honeycomb. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the panels of the admitted prior art from polypropylene since Dubois discloses that panels like those of the admitted prior art are made from polypropylene.

Regarding claim 14, the admitted prior art discloses the core is cellular but does not specifically state it is honeycomb. Dubois discloses the panel contains a honeycomb core.(Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the core of the admitted prior art honeycomb since Dubois discloses that panels like those of the admitted prior have honeycomb cores.

Regarding claims 16 and 17, the references cited do not specifically disclose the incision only being 0.5 mm thick. Komarek et al. discloses forming the hinge by slitting the material.((Col. 1, ll. 61-62) Since the material is slit, the incision is only the width of the knife blade, and since most knives have blades less than 0.5 mm thick, one in the art would appreciate that the incision of Komarek et al. would be less than 0.5 mm thick.

Regarding claims 18 and 19, while the references are silent to the exact depth to which the incision is cut, one in the art would appreciate that cutting the depth to less than the thickness of the core would allow additional material to act as part of the hinge, strengthening it, and would do so for that reason.

Regarding claims 20 and 21, the admitted prior art panel consists of three layers- 2 reinforced thermoplastic skins and a thermoplastic core.

Regarding claims 22 and 23, since the admitted prior art is only three layers, and Komarek et al. discloses cutting through one skin and the core, one in the art would appreciate that the hinge would be formed from the only remaining skin.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 1 above, and further in view of Northall.

The references cited above do not disclose by two serrated blades which reciprocate to cut the hinge in the panel of the admitted prior art, Dubois, Komarek et al., and optionally Ilzhoefer et al. Northall discloses a method of cutting using two serrated blades which reciprocate to prevent buckling of the blades.(Col. 1, ll. 15-21) Such cutting devices are well-known and conventional in the cutting arts as shown for example by common electric bread knives and by Northall. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use this well-known and conventional cutting blade system since it prevents bending of the cutting blade(Col. 1, ll. 15-21) and since it cuts more quickly than using only one blade particularly since these cutting blades are so well-known and conventional in the cutting art.



Art Unit: 1733

6. Claims 15, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Komarek et al., and optionally Ilzhoefer et al.

The admitted prior art discloses forming a composite sandwich panel by cold pressing a reinforced thermoplastic skin, a thermoplastic core, and a second reinforced thermoplastic skin in a cold mold to form a panel which is used in automobiles. The skins are preheated to a softening temperature prior to molding. After molding, a separate hinge can be added to the panel.(Specification, pages 1-2)

The admitted prior art does not disclose forming the hinge by cutting only a narrow incision through one skin and the entire core of the panel while leaving the second skin intact. Komarek et al. discloses it is known when forming a hinge in a honeycomb panel to cut a narrow incision through one skin and the entire core of the panel while leaving the second skin intact.(Col. 2, ll. 19-29) It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the separate hinge of the admitted prior art with an integral hinge formed by cutting through one skin and the entire core of the panel while leaving the second skin intact since forming a slit to facilitate hinge formation in either thermoplastic or paperboard would have been obvious as Komarek et al. discloses forming such hinges in honeycomb panels, since this would reduce the cost as a separate hinge would not be required, and optionally, particularly since Ilzhoefer shows it is known to form integral hinges in fiber-reinforced thermoplastic.(Abstract) Since Komarek et al. discloses forming a slit in a

Art Unit: 1733

paperboard honeycomb, one in the art would reasonably have expected success when forming a slit to use as a hinge in a thermoplastic honeycomb.

While the references do not specifically state the slit is narrow, one in the art would appreciate that the slit shown in Figure 1 of Komarek et al. was narrow in relation to its thickness.

7. Claims 1, 2, 5, 6, 10-14, and 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Dubois, Yoshinori, optionally Ilzhoefer et al., and Corner.

The admitted prior art discloses forming a composite sandwich panel by cold pressing a reinforced thermoplastic skin, a thermoplastic core, and a second reinforced thermoplastic skin in a cold mold to form a panel which is used in automobiles. The skins are preheated to a softening temperature prior to molding. After molding, a separate hinge can be added to the panel.(Specification, pages 1-2)

The admitted prior art is silent as to the molding pressure. Dubois discloses forming a thermoplastic honeycomb panel like those in the admitted prior art by molding the panel at 10-30 bar.(Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to mold the panel of the admitted prior art at 10-30 bar since Dubois discloses that panels like those of the admitted prior art are molded at 10-30 bar.

The admitted prior art does not disclose forming the hinge by cutting only a narrow incision through one skin and the entire core of the panel while leaving the second skin intact. Yoshinori discloses a method of forming an integral hinge in a

Art Unit: 1733

thermoplastic honeycomb panel which is used in automobiles by cutting a narrow incision through one skin and the entire core of the panel while leaving the second skin intact.(Figure 3, Abstract, Oral translation) It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the separate hinge of the admitted prior art with an integral hinge formed by cutting through one skin and the entire core of the panel while leaving the second skin intact since this would reduce the cost as a separate hinge would not be required and since Yoshinori discloses forming such hinges in honeycomb panels used in automobiles like the admitted prior art does, and optionally particularly since Ilzhoefer shows it is known to form integral hinges in fiber-reinforced thermoplastic.(Abstract)

The references cited disclose the hinge of Yoshinori is 4 mm in comparison to an 8 mm thick panel as stated in an example. This is clearly only exemplary and other known thicknesses for the hinge could be used. Corner discloses forming a hinge in a cardboard panel by slitting one face sheet and the core forming a narrow incision relative to the thickness of the panel.(Pg. 1, ll. 60-64) Since the material is slit, the incision is only the width of the knife blade. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the incision of the admitted prior art, Dubois, Yoshinori, and optionally Ilzhoefer et al. narrow relative to the thickness of the panel by forming an incision via slitting as shown by Corner since the Yoshinori does not disclose the specifics of the cutting of the hinge, since the width in Yoshinori is only exemplary, since Corner discloses a process like that of Yoshinori wherein the material is slit, and since slitting would be a simpler process as it would not

Art Unit: 1733

require removal of material. While Yoshinori discloses a bendability and durability for the panel, a thinner incision would not result in a decrease in these properties since the thinner incision would maintain the same bendability because Corner discloses the hinge can be bent 180 degrees.(Figure 1) Since the material of the admitted prior art and Yoshinori is the same and is used in the same location, the durability would be the same.

Regarding claim 2, the references do not disclose when or where the hinge is formed in the panel. One in the art reading the references as a whole would appreciate that there is no criticality in the timing of forming the hinge. Therefore, one in the art would readily appreciate that it would have been within the purview of one in the art to form the hinge after formation of the panel while still in the mold since this would reduce processing time. Only the expected results would be achieved.

Regarding claims 5 and 6, the references do not disclose when or where the hinge is formed in the panel. One in the art reading the references as a whole would appreciate that there is no criticality in the timing of forming the hinge. Therefore, one in the art would readily appreciate that it would have been within the purview of one in the art to form the hinge either before or after removal from the mold. Only the expected results would be achieved.

Regarding claim 10, the references do not specifically state that the subassembly of skins and core is pre-heated prior to molding. However one in the art would appreciate that the pre-assembly could be preheated to ensure better molding particularly since the molded panel can be formed into a curved shape and when

Art Unit: 1733

forming such a shape preheating the core as well as the skins would enable easier molding.

Regarding claim 11, Dubois discloses the skins are pre-heated to 160-200C during the forming process.(Oral translation) It would have been obvious to one of ordinary skill in the art at the time the invention was made to pre-heat the skins of the admitted prior art to 160-200 C since Dubois discloses that panels like those of the admitted prior art are made by first pre-heating the skins to 160-200 C.

Regarding claim 12, the admitted prior art discloses the thermoplastic is reinforced but not with what. Such reinforcement is conventionally fibers as shown for example by Ilzhoefer et al.(Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use glass fiber as the reinforcement in the thermoplastic of the admitted prior art since Ilzhoefer et al. that reinforced panels in automobiles can be formed from glass fiber reinforcement and since the use of fiber as reinforcement is well-known and conventional in the art.

Regarding claim 13, the admitted prior art is silent as to the thermoplastic used to form the panel. Both Dubois(oral translation) and Yoshinori(oral translation) disclose using polypropylene to form the skins and core of the honeycomb. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the panels of the admitted prior art from polypropylene since Dubois and Yoshinori both disclose that panels like those of the admitted prior art are made from polypropylene.

Regarding claim 14, the admitted prior art discloses the core is cellular but does not specifically state it is honeycomb. Dubois discloses the panel contains a

Art Unit: 1733

honeycomb core.(Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the core of the admitted prior art honeycomb since Dubois discloses that panels like those of the admitted prior have honeycomb cores.

Regarding claims 16 and 17, the references cited do not specifically disclose the incision only being 0.5 mm thick. Corner discloses forming the hinge by slitting the material.(Pg. 1, ll. 60-64) Since the material is slit, the incision is only the width of the knife blade, and since most knives have blades less than 0.5 mm thick, one in the art would appreciate that the incision of Corner would be less than 0.5 mm thick.

Regarding claims 18 and 19, while the references are silent to the exact depth to which the incision is cut, one in the art would appreciate that cutting the depth to less than the thickness of the core would allow additional material to act as part of the hinge, strengthening it, and would do so for that reason.

Regarding claims 20 and 21, the admitted prior art panel consists of three layers- 2 reinforced thermoplastic skins and a thermoplastic core.

Regarding claims 22 and 23, since the admitted prior art is only three layers, and both Yoshinori and Corner discloses cutting through one skin and the core, one in the art would appreciate that the hinge would be formed from the only remaining skin.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 1 above, and further in view of Mumper.

The references cited above do not disclose the type of blade used to cut the panel of the admitted prior art, Dubois, Yoshinori, and optionally Ilzhoefer et al. Mumper

Art Unit: 1733

discloses cutting corrugated board into sections using a serrated blade which is pressed downward.(Figure 1; Col. 1, ll. 65-67) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a serrated knife to cut through a first skin and core in a straight downward motion since this would prevent tearing of the board edges as taught by Mumper.(Col. 1, ll. 7-12) While the reference discloses a straight downward vertical slice, one in the art would understand since the knife is not intended to cut entirely through the honeycomb, pressing straight down would not necessarily cut through all of the honeycomb core but would leave small portions uncut because the blade is serrated. Thus one in the art would appreciate that the knife blade would be moved horizontally as well as vertically to ensure that all of the honeycomb core is cut.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 1 above, and further in view of Northall.

The references cited above do not disclose by two serrated blades which reciprocate to cut the hinge in the panel of the admitted prior art, Dubois, Yoshinori, and optionally Ilzhoefer et al. Northall discloses a method of cutting using two serrated blades which reciprocate to prevent buckling of the blades.(Col. 1, ll. 15-21) Such cutting devices are well-known and conventional in the cutting arts as shown for example by common electric bread knives and by Northall. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use this well-known and conventional cutting blade system since it prevents bending of the cutting blade(Col. 1, ll. 15-21) and since it cuts more quickly than using only one blade

Art Unit: 1733

particularly since these cutting blades are so well-known and conventional in the cutting art.

10. Claims 15, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Yoshinori, optionally Ilzhoefer et al., and Corner.

The admitted prior art discloses forming a composite sandwich panel by cold pressing a reinforced thermoplastic skin, a thermoplastic core, and a second reinforced thermoplastic skin in a cold mold to form a panel which is used in automobiles. The skins are preheated to a softening temperature prior to molding. After molding, a separate hinge can be added to the panel.(Specification, pages 1-2)

The admitted prior art does not disclose forming the hinge by cutting only a narrow incision through one skin and the entire core of the panel while leaving the second skin intact. Yoshinori discloses a method of forming an integral hinge in a thermoplastic honeycomb panel which is used in automobiles by cutting a narrow incision through one skin and the entire core of the panel while leaving the second skin intact.(Figure 3, Abstract, Oral translation) It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the separate hinge of the admitted prior art with an integral hinge formed by cutting through one skin and the entire core of the panel while leaving the second skin intact since this would reduce the cost as a separate hinge would not be required and since Yoshinori discloses forming such hinges in honeycomb panels used in automobiles like the admitted prior art does, particularly since Ilzhoefer shows it is known to form integral hinges in fiber-



Art Unit: 1733

reinforced thermoplastic.(Abstract) It is noted that the joining pressure is a method limitation which does not limit the product.

The references cited disclose the hinge of Yoshinori is 4 mm in comparison to an 8 mm thick panel as stated in an example. This is clearly only exemplary and other known thicknesses for the hinge could be used. Corner discloses forming a hinge in a cardboard panel by slitting one face sheet and the core forming a narrow incision relative to the thickness of the panel.(Pg. 1, ll. 60-64) Since the material is slit, the incision is only the width of the knife blade. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the incision of the admitted prior art, Yoshinori, and optionally Ilzhoefer et al. narrow relative to the thickness of the panel by forming an incision via slitting as shown by Corner since the Yoshinori does not disclose the specifics of the cutting of the hinge, since the width in Yoshinori is only exemplary, since Corner discloses a process like that of Yoshinori wherein the material is slit, and since slitting would be a simpler process as it would not require removal of material. While Yoshinori discloses a bendability and durability for the panel, a thinner incision would not result in a decrease in these properties since the thinner incision would maintain the same bendability because Corner discloses the hinge can be bent 180 degrees.(Figure 1) Since the material of the admitted prior art and Yoshinori is the same and is used in the same location, the durability would be the same.

***Response to Arguments***

11. Applicant's arguments filed 10/20/03 have been fully considered but they are not persuasive.

Regarding applicant's argument that the hinge of Yoshinori is not narrow in relation to its thickness and so the hinge in the admitted prior art would not be, the example of 4 mm in Yoshinori is clearly only exemplary. While data showing the performance at 4 mm is listed, this does not indicate that other widths would not provide the same performance but simply indicates some of the capabilities of this type of hinge. Corner shows that a hinge can be narrow in relation to its thickness and still have the same range of motion described in Yoshinori.(Figure 1) Additionally, the strength and durability of the hinge would appear to be related to the material used as the hinge. Thus since the material of the admitted prior art, which is the same as the claims, is a thermoplastic as is Yoshinori, the strength of the hinge would not decrease if the hinge width was decreased.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Barbara J. Musser** whose telephone number is **(703)-305-1352** until December 20 when it changes to (571) 272-1222. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 703-308-3853. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Art Unit: 1733

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
BJM



JEFF H. AFTERGUT  
PRIMARY EXAMINER  
GROUP 1300